ELSEVIER

Coordination Chemistry Reviews 206–207, Complete,
September 2000

COORDINATION CHEMISTRY REVIEWS

www.elsevier.com/locate/ccr

Contents

Preface 1

Dihapto binding of aromatic molecules by π-basic transition metal complexes: development of alternatives to the $\{Os(NH_3)_5\}^{2+}$ fragment
B.C. Brooks, T. Brent Gunnoe and W. Dean Harman 3

Remarkable transformations of thiophene ligands in their pentamethylcyclopentadienyl iridium (Cp*Ir) complexes
J. Chen and R.J. Angelici 63

Bis(alkynyl) transition metal complexes, $R^1C{\equiv}C{-}[M]{-}C{\equiv}CR^2$, as organometallic chelating ligands; formation of $\mu,\eta^{1(2)}$-alkynyl-bridged binuclear and oligonuclear complexes
H. Lang, D.S.A. George and G. Rheinwald 101

Transition metal η^2-vinyl complexes
D.S. Frohnapfel and J.L. Templeton 199

Applications of carbene complexes toward organic synthesis
J.W. Herndon 237

Perspectives in reductive lanthanide chemistry
W.J. Evans 263

Low valent aluminum and gallium compounds — structural variety and coordination modes to transition metal fragments
G. Linti and H. Schnöckel 285

Disiloxanediolates and polyhedral metallasilsesquioxanes of the early transition metals and *f*-elements
V. Lorenz, A. Fischer, S. Gießmann, J.W. Gilje, Y. Gun'ko, K. Jacob and F.T. Edelmann 321

Cationic and neutral cumulene sp-carbon chains with ferrocenyl termini
B. Bildstein 369

The table of contents of *Coordination Chemistry Reviews* is included in ESTOC – Elsevier Science Tables of Contents service — which can be accessed on the World Wide Web at the following URLS: http://www.elsevier.nl/locate/estoc or http://www.elsevier.com/locate/estoc

The publisher encourages the submission of articles in electronic form thus saving time and avoiding rekeying errors. Please refer to the online version of the Guide for Authors at http://www.elsevier.com/locate/ccr

Xenophilic transition metal clusters
B.R. Whittlesey 395

Photochemistry and reaction intermediates of the bimetallic Group VIII cyclopentadienyl metal carbonyl compounds, $(\eta^5\text{-}C_5H_5)_2M_2(CO)_4$ and their derivatives
T.E. Bitterwolf 419

Thermodynamic and kinetic studies of stable low valent transition metal radical complexes
C.D. Hoff 451

Ligand-centered reactivity of organometallic radicals
K.E. Torraca and L. McElwee-White 469

Catalysis of reactions of Si–H by titanocene and its derivatives
J.F. Harrod 493

The bio-organometallic chemistry of active site iron in hydrogenases
M.Y. Darensbourg, E.J. Lyon and J.J. Smee 533

Metal carbonyl analogues of iron–sulfur clusters found in metalloenzyme chemistry
R.B. King and T.E. Bitterwolf 563

Organometallic chemistry and surface science: mechanistic models for the Fischer–Tropsch synthesis
M.J. Overett, R.O. Hill and J.R. Moss 581

Synthesis of nanostructured metals and metal alloys from organometallics
K.E. Gonsalves, H. Li, R. Perez, P. Santiago and M. Jose-Yacaman 607

The use of aluminum and gallium hydrides in materials science
J.A. Jegier and W.L. Gladfelter 631

Organometallic magnets
J.S. Miller and A.J. Epstein 651

Author Index. 661
Subject Index. 663

US Mailing notice

Coordination Chemistry Reviews (ISSN 0010–8545) is published monthly by Elsevier Science S.A. (P.O. Box 564, 1001 Lausanne). Annual subscription price in the USA US$3707 (valid in North, Central and South America), including air speed delivery. Application to mail at periodical postage rate is pending at Jamaica, NY 11431.

USA POSTMASTER: Send address changes to *Coordination Chemistry Reviews*, Publications Expediting, Inc., 200 Meacham Avenue, Elmont, NY 11003.

AIRFREIGHT AND MAILING in the USA by Publications Expediting Inc., 200 Meacham Avenue, Elmont, NY 11003.

Advertising information: Advertising orders and enquiries may be sent to: **USA, Canada and South America**: Mr Tino de Carlo, The Advertising Department, Elsevier Science Inc., 655 Avenue of the Americas, New York, NY 10010–5107, USA; Tel.: (+1) (212) 633 3815; Fax: (+1) (212) 633 3820; e-mail: t.decarlo@elsevier.com. **Japan**: The Advertising Department, Elsevier Science K.K., 9-15 Higashi-Azabu 1-chome, Minato-ku, Tokyo 106-0044, Japan; Tel.: (+81) (3) 5561 5033; Fax: (+81) (3) 5561 5047. **Europe and ROW**: Rachel Leveson-Gower, The Advertising Department, Elsevier Science Ltd., The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK; Tel.: (+44) (1865) 843565; Fax: (+44) (1865) 843976; e-mail: r.leveson-gower@elsevier.co.uk